

Appl. No. 10/720,652
Response dated: July 7, 2006
Reply to Office action of May 09, 2006

Listing of Claims:

1. (Currently Amended) A circuit device comprising:
a first, second and third plurality of electrode terminals, each plurality of electrode terminals being linearly aligned in a plurality of columns along a first direction parallel to an edge line of a semiconductor substrate and linearly aligned in a plurality of rows along a second direction perpendicular to the first direction; and
bumps disposed on the first, second and third plurality of electrode terminals,
wherein distances between adjacent two electrode terminals for each respective first, second and third plurality of electrode terminals aligned in the second direction from respective adjacent columns are uniform.
2. (Canceled)
3. (Currently Amended) The circuit device of claim 1, wherein each of the bumps on at least one of the first, second and third plurality of electrode terminals has a rectangular shape when viewed from an upper side of the bumps.
4. (Withdrawn) The circuit device of claim 3, wherein each of the bumps has at least one chamfered corner portion.
5. (Withdrawn) The circuit device of claim 3, wherein each of the bumps has at least one rounded corner portion.
6. (Currently Amended) The circuit device of claim 1, wherein each of the bumps on at least one of the first, second and third plurality of electrode terminals has a pentagon, a hexagon, an octagon or a circle shape when viewed from an upper side of the bumps.

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7. (Withdrawn) A circuit device comprising:
electrode terminals aligned in a plurality of columns along a first direction parallel to an edge line of a semiconductor substrate;
bumps disposed on the electrode terminals,
wherein the electrode terminals comprise first electrode terminals aligned in a first column and second electrode terminals aligned in a second column adjacent to the first column, distances between adjacent two first electrode terminals are uniform and the second electrode terminals are positioned at areas corresponding to areas between the first electrode terminals aligned in the first column.

8. (Withdrawn) The circuit device of claim 7, wherein each of the bumps has a predetermined length extended in a second direction perpendicular to the first direction, the bumps comprise first bumps disposed on the first electrode terminals and second bumps disposed on the second electrode terminals, the second bumps are separated from the first bumps and the separated distance between the first and second bumps is greater than half of the predetermined length.

9. (Withdrawn) The circuit device of claim 8, wherein each of the bumps has a rectangular shape when viewed from an upper side of the bumps.

10. (Withdrawn) The circuit device of claim 9, wherein each of the bumps has at least one chamfered corner portion.

11. (Withdrawn) The circuit device of claim 9, wherein each of the bumps has at least one rounded corner portion.

12. (Currently Amended) A display device comprising:
a display panel having a display area on which a gate line, a data line perpendicular to the gate line and a plurality of pixels are formed and a peripheral area on which electrode pads

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extended from the gate and data lines are formed, the peripheral area being disposed adjacent to the display area; and

a drive IC having a first, second and third plurality of electrode terminals, each plurality of electrode terminals being linearly aligned in a plurality of columns along a first direction parallel to an edge line of a semiconductor substrate and linearly aligned in a plurality of rows along a second direction perpendicular to the first direction and bumps disposed on the first, second and third plurality of electrode terminals, the drive IC being electrically connected to the electrode pads,

wherein distances between adjacent two electrode terminals for each respective first, second and third plurality of electrode terminals aligned in the second direction from respective adjacent columns are uniform.

13. (Original) The display device of claim 12, wherein the electrode pads are positioned at the peripheral area, aligned in the plurality of columns along the first direction and aligned in the plurality of rows along the second direction perpendicular to the first direction.

14. (Currently Amended) The display device of claim 12, wherein each of the bumps on at least one of the first, second and third electrode terminals has a rectangular shape when viewed from an upper side of the bumps.

15. (Withdrawn) The display device of claim 14, wherein each of the bumps has at least one chamfered corner portion.

16. (Withdrawn) The display device of claim 14, wherein each of the bumps has at least one rounded corner portion.

17. (Original) The display device of claim 12, wherein the drive IC is electrically connected to the display panel by means of an anisotropic conductive film.

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18. (Withdrawn) The display device of claim 12, wherein the display panel is a liquid crystal display panel that displays an image by driving a liquid crystal.

19. (Withdrawn) A display device comprising:

a display panel having a display area on which a gate line, a data line perpendicular to the gate line and a plurality of pixels are formed and a peripheral area on which electrode pads extended from the gate and data lines are formed, the peripheral area being disposed adjacent to the display area; and

a drive IC having electrode terminals aligned in a plurality of columns along a first direction parallel to an edge line of a semiconductor substrate and bumps disposed on the electrode terminals,

wherein the electrode terminals comprise first electrode terminals aligned in a first column and second electrode terminals aligned in a second column adjacent to the first column, distances between adjacent two first electrode terminals are uniform and the second electrode terminals are positioned at areas corresponding to areas between the first electrode terminals aligned in the first column.

20. (Withdrawn) The display device of claim 19, wherein the electrode pads are positioned at the peripheral area and aligned in the plurality of columns along the first direction, the electrode pads comprise first electrode pads aligned in the first column and second electrode pads aligned in the second column, distances between adjacent two electrode pads are uniform, and the second electrode pads are positioned at areas corresponding to areas between the first electrode pads aligned in the first column.

21. (Withdrawn) The display device of claim 19, wherein each of the bumps has a predetermined length extended in a second direction perpendicular to the first directions, the bumps comprise first bumps disposed on the first electrode terminals and second bumps disposed on the second electrode terminals, the second bumps are separated from the first bumps and the separated distance between the first and second bumps is greater than a half of the predetermined length.

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22. (Withdrawn) The display device of claim 21, wherein each of the bumps has a rectangular shape when viewed from an upper side of the bumps.

23. (Withdrawn) The display device of claim 22, wherein each of the bumps has at least one chamfered corner portion.

24. (Withdrawn) The display device of claim 22, wherein each of the bumps has at least one rounded corner portion.

25. (Withdrawn) The display device of claim 19, wherein the drive IC is electrically connected to the display panel by means of anisotropic conductive film.

26. (Withdrawn) The display device of claim 19, wherein the display panel is a liquid crystal display panel that displays an image by driving a liquid crystal.